

The Feynman Field Guide to Clear Thinking

— Free Preview

Chapter 1 in full, with its worked example, its worksheet, and
its source notes

Feynman Archives

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The Feynman Field Guide to Clear Thinking

Six Practical Questions Built from Verified Feynman Sources for Testing Explanations, Evidence, and Decisions

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This is a real section of the book, not a sample of the table of contents. It contains the complete first chapter, including its worked example and its worksheet. No email address is required to read it. If it does not work for you, please do not buy the book.

All named cases, dialogue, outcomes and timings are fictional composites created to demonstrate the worksheets. They are not case reports or testimonials.

Page 1 — What this is

Eight chapters. Six questions. About 13,500 words. Six test examples plus one complete-file example. The material is drawn from verified passages from six source works—lectures, addresses, books, and one BBC recording.

Every direct quotation is checked against a primary published source and listed with a link you can open. Where a well-known saying attributed to Feynman could not be traced to a primary source, it is not in the book — and there is a short appendix listing those, because knowing which famous quotations are unverified is useful in itself.

Only one of the six questions is a direct instruction from Feynman. That is Chapter 1, and you are about to read all of it. The other five are modern tools built from principles he stated in published lectures, and each chapter says plainly which part is his and which part is ours.

There is no biography in this book, and no physics.

Page 2 — From the introduction

You have almost certainly had this experience. Someone explains something to you — a consultant, a specialist, a salesperson, a headline, a piece of software — and the explanation is fluent, assured, and delivered without hesitation. You come away with the words. And some time later you realise you cannot actually do anything with them. You could not explain it to someone else. You could not use it to predict what would happen next. You could not tell whether it was true.

Most of the time nothing follows from this. But sometimes the thing you did not really understand turns out to have been expensive.

This book is about the gap between an answer that sounds right and an explanation that holds up. It is a small gap and a very consequential one. You do not need subject expertise to ask these six questions. Judging some answers still requires a qualified professional.

Two ways to get this wrong

There are two failure modes here and they are mirror images of each other.

The first is deference. Someone with a title, a qualification or a confident manner makes a claim, and you accept it because arguing feels presumptuous — they went to school for this and you did not. So you nod, and you sign, and you find out later.

The second is the opposite, and it has become much more common. Having been burned once, you decide that credentials mean nothing, that experts are self-serving, that the official story is always a cover. This feels like independence. It is not. It is the same failure with the sign flipped: in both cases you are deciding what to believe based on who said it rather than on what would have to be true.

Neither one is thinking. Thinking is what happens in between.

[The introduction continues in the full book.]

Pages 3–6 — Chapter 1, complete

Chapter 1 — The Word-Removal Test

The question: If the important label disappeared, could I still explain what is happening?

The problem

There is a particular kind of answer that closes a conversation without opening anything. You ask why something is happening and you get a word back. The word is technical, or official, or new, and it arrives with enough confidence that asking again feels rude. So the conversation ends. And nothing has been explained.

You will recognise the shape of it:

- “Why is the project behind?” — “There’s a resourcing issue.”
- “Why does this cost more than the quote?” — “That’s the market rate now.”
- “Why am I tired all the time?” — “It’s stress.”
- “Why did the model give that answer?” — “It’s a probabilistic system.”

None of those sentences is a lie. Some of them may be entirely correct. But none of them tells you what is happening, and you cannot act on any of them. What has occurred is that a name has been supplied where a mechanism was requested, and the name is doing the emotional work of an explanation without doing any of the actual work.

This is not a modern problem and it is not caused by dishonesty. Most people who do it are not trying to deceive you. They have the word, the word is genuinely the correct word, and they have never been asked

to go one level below it.

What Feynman said

In April 1966, Feynman gave an address to the National Science Teachers Association in New York. It was later published in the journal *The Physics Teacher*. Much of it is a critique of how science was being taught to children, but in the middle of it he offers something more useful than a critique — a specific procedure, stated as an instruction. He tells the teachers what to do when a pupil has just learned a new term:

“Without using the new word which you have just learned, try to rephrase what you have just learned in your own language.”

That sentence is the most directly usable thing in this book, and it is the one place where we can say without qualification: this is Feynman’s instruction, in his words, aimed at exactly this problem.

His concern was that a child could learn the word “energy” and be no closer to understanding why a ball rolls downhill. Remove the word and see whether anything remains. If something does, there was an understanding underneath. If nothing does, there was only a label.

The test

Take the sentence you were given. Delete the key term. Now say the same thing again without it.

That is the whole test. Its power is in how quickly it fails.

Try it on the examples above:

- “There’s a resourcing issue” becomes... what? “We do not have enough people”? That is a real statement — it can be checked, and it suggests an action. Or does it become “something to do

with resources”? Then there was nothing there.

- “It’s the market rate now” becomes “other suppliers are also charging more” — checkable — or it becomes “the price is higher because prices are higher,” which is a circle.

The test does not tell you the speaker is wrong. It tells you whether a claim has been made at all.

Worked example

The situation. Rebecca, who runs operations for a mid-sized distributor, is told by a software vendor that their new system will help because it is “AI-powered” and will “optimise inventory allocation dynamically.”

Step 1 — Write the sentence exactly as it was given. “Our AI-powered engine optimises inventory allocation dynamically across your network.”

Step 2 — Identify the load-bearing words. *AI-powered. Optimises. Dynamically.* These three are carrying the entire claim.

Step 3 — Rewrite without them. Rebecca’s first attempt: “Our engine allocates inventory across your network.” That is not a claim — every inventory system does that. So the whole promise was living in the three deleted words.

Step 4 — Ask the speaker to do the same. She emails: “*Could you describe what the system does with our inventory data without using the words AI, optimise or dynamic? I want to make sure I can explain it to my board.*”

Step 5 — Record what came back. The reply: “*It looks at the last 90 days of sales per SKU per location, forecasts next week’s demand, and moves stock from locations where forecast demand is below current stock to locations where it is above.*”

Step 6 — What changed. That is a real statement. It also revealed something Rebecca could evaluate: the system uses 90 days of history. Her business is strongly seasonal. A 90-day window in February tells you almost nothing about April. She now had a specific, answerable question that she did not have before — and it had nothing to do with whether the product was “AI.”

What she gained: not a verdict on the software, but a question worth asking.

Blank worksheet

WORD-REMOVAL TEST

1. The sentence, exactly as it was said or written:
2. The two or three words doing the most work:
3. The same sentence with those words deleted. What is left?
4. Circle one: ☐ Something real remains ☐ Nothing remains ☐ It becomes a circle
5. If nothing remains — the question I will ask, in my own words:
6. What came back:
7. What I now know that I did not know before:

Common mistakes

Treating jargon as automatically empty. It is not. Technical vocabulary exists because it compresses something real; a cardiologist saying “atrial fibrillation” is not obscuring anything, she is naming a specific thing precisely. The test detects *empty* words, not *difficult* ones. A good specialist will pass this test easily and will usually be pleased to be asked.

Asking in a way that sounds like an accusation. “Can you explain

that without the buzzwords?” invites defensiveness. “I want to be able to explain this to someone else — how would you put it?” invites help. Same question, different result.

Running the test only on other people. The most uncomfortable version is running it on yourself. Take something you believe you understand and explain it without its usual vocabulary. Most of us have several beliefs that do not survive this.

What this test cannot do

It cannot tell you whether a claim is *true*. A vendor can describe their system in perfectly plain language and the description can still be false. Removing the word only establishes that there is a claim on the table which could, in principle, be checked.

It also does not work well on things that are genuinely irreducible. Some concepts do not have a simpler version — not because the speaker is hiding, but because the simpler version would be wrong. A good expert will sometimes tell you exactly that, and that answer is worth more than a smooth analogy.

Feynman Source and Our Adaptation

From Feynman: the instruction itself — restate what you have learned without using the new word — from his 1966 address “What Is Science?”, published in *The Physics Teacher*, volume 7, issue 6 (1969), pages 313–320. He gave it as a test for whether a pupil had understood or merely memorised. This is the one test in this book that is a direct instruction from him rather than an adaptation.

From us: applying it to adult conversations rather than classrooms; the six-step worksheet; the distinction between empty and difficult vocabulary; the phrasing suggestions.

Where to read the original: the full text of “What Is Science?” is

available at fotuva.org/feynman/what_is_science.html and through the journal at pubs.aip.org.

Page 7 — What is in the rest of the book

Chapter 2 — The Prediction Test. If this claim is true, what should I expect to observe? Built from the 1964 Cornell lecture in which Feynman explains why a theory too vague to be contradicted is weak rather than strong. Worked example: evaluating a treatment recommendation without being able to judge the medicine.

Chapter 3 — The Mechanism Test. Does this explain how it happens, or rename what happened? Built from two passages in the first-year physics lectures where Feynman tells students, at the height of Newtonian success, that nobody knows what produces gravity. Worked example: a school report that dissolves under three questions.

Chapter 4 — The Evidence-Trail Test. Where did this claim come from, and what was removed on the way to you? Built from Feynman's standard of full disclosure in "Cargo Cult Science." Covers generated answers and news claims. Worked example: a viral health headline, traced back to its paper.

Chapter 5 — The Self-Deception Test. What would I prefer to believe? The hardest chapter, built from the 1974 commencement address and the principle that the easiest person to fool is yourself. Worked example: a man deciding whether to move closer to his daughter.

Chapter 6 — The Confidence-and-Next-Step Test. How certain am I, and what is the safest useful next step? Built from Feynman's account of why we estimate at all, and from his description of knowledge as degrees of certainty rather than true and false. Worked example: a business owner facing an irreversible purchase.

Chapter 7 — Questioning Without Becoming Contrarian. Why an expert who cannot simplify is not thereby wrong, why your own experience is evidence but not the dataset, and how to ask any of these questions without starting an argument. Includes sentence templates you can use as they are.

Chapter 8 — Build Your Personal Clarity File. One realistic situation, all six questions, start to finish. The complete-file example and a blank master template. Chapter 8 introduces no further Feynman material; it combines the tools from Chapters 1 to 6 and says so in its own source note.

Plus: the printable worksheet toolkit — six core test worksheets, one quick-reference sheet and one two-page Personal Clarity File, in A4 and US Letter — full source notes, and the list of famous Feynman quotations we could not verify.

Page 8 — About the sources, and how to get the book

On sourcing

Only Chapter 1 is presented as a direct instruction from Feynman, because it is the only one that is one. Chapters 2 to 7 are modern tools built from principles he stated in published lectures and addresses, and every chapter ends with a short note separating his contribution from ours and telling you where to read the original.

The worksheets are ours. They are not documents written by Richard Feynman and the book never suggests otherwise.

We do not use the same anecdote twice, and we have deliberately left out the stories you have already heard many times.

Independent publication

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This book is for general education. It is not medical, legal, financial or professional advice, and it is not a substitute for a qualified professional.

Get the full Field Guide

The Feynman Field Guide to Clear Thinking — \$12

PDF and ePub (Kindle-compatible), plus the printable worksheet toolkit in A4 and US Letter. Instant download.

You have just read Chapter 1 in full. If it was useful, the other five questions and the Personal Clarity File are waiting. If it was not, you have lost nothing, and thank you for reading.

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